

## 639.5 Payment

### A. Treated Timber Poles

Treated timber poles of the class and length specified will be paid for at the Contract Price bid per each. Payment is full compensation for poles, concrete encasements, excavation for pole and anchor holes, temporary pole alignment, bracing, guys, and items to complete the Work.

### B. Steel Strain Poles

Steel strain poles of the type specified, complete in place and accepted, including backfill, erection, and necessary regressing will be paid for at the Contract Unit price bid for each pole of each type.

### C. Prestressed Concrete Strain Poles

Prestressed concrete strain poles of the type specified, complete in place and accepted, including backfill, erection, and necessary regressing will be paid for at the Contract Unit Price bid for each pole of each type.

When neither concrete nor steel strain poles are specified, either type is acceptable. Measurement is specified in Subsections 639.4.C. or 639.4.D. The payment item is Strain Poles, Type \_\_\_\_.

### D. Steel Cable

Steel cable complete in place and accepted will be paid for at the Contract Unit Price bid per linear foot (meter) of each specified diameter. Payment is full compensation for furnishing and erecting the cable and for providing hardware including thimbles, but not hardware that is a part of the pole.

Payment will be made under:

Item No. 639	Treated timber pole class____, ____ ft (m)	Per each
Item No. 639	Steel strain pole, type____	Per each
Item No. 639	Prestressed concrete strain pole, type____	Per each
Item No. 639	Strain Poles, Type____	Per each
Item No. 639	Steel strand wire cable____in. (mm)	Per linear foot (meter)

### 639.5.01 Adjustments

General Provisions 101 through 150.

## **Section 640—Retroreflectorized Railroad Cross Buck Sign**

### 640.1 General Description

This work includes furnishing and erecting retroreflectorized railroad cross buck signs, including wood or steel posts and concrete bases for steel posts at locations shown on the Plans or as directed by the Engineer.

#### 640.1.01 Definitions

General Provisions 101 through 150.

#### 640.1.02 Related References

##### A. Standard Specifications

Section 500—Concrete Structures

##### B. Referenced Documents

Specifications of the Association of American Railroads

MUTCD

#### 640.1.03 Submittals

General Provisions 101 through 150.

## 640.2 Materials

Use Class B or better concrete for steel posts that conforms to the dimensions and details shown on the Plans, and meets the requirements of Section 500. Ensure that the concrete surface is uniform and free of honeycomb.

Ensure that other elements of the sign conform to the requirements of the Specifications, or to the Specifications of the Association of American Railroads, whichever is indicated on the Plans.

### 640.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

## 640.3 Construction Requirements

### 640.3.01 Personnel

General Provisions 101 through 150.

### 640.3.02 Equipment

General Provisions 101 through 150.

### 640.3.03 Preparation

General Provisions 101 through 150.

### 640.3.04 Fabrication

General Provisions 101 through 150.

### 640.3.05 Construction

#### A. Steel Post

Place a steel post as follows:

1. Set each steel post for a sign assembly in a concrete foundation according to the Plans.
2. Securely hold each post vertically until the concrete is strong enough to hold the post and sign without support.
3. Replace cracked bases.
4. Backfill around the bases with satisfactory materials.
5. Carefully tamp the backfill in place.

After setting the steel post, curing the concrete, and backfilling, fasten the cross buck sign to the post according to the details shown in the Plans.

#### B. Wood Post

Place a wood post as follows:

1. Place each post in a prepared dry hole at least 6 in (150 mm) diameter.
2. Backfill the hole with a mixture of Portland cement and damp clean friable soil using 8 percent cement by volume.
3. Thoroughly tamp the resultant mixture in place around the post.
4. Erect the posts vertically to the depth and at an angle to the roadway as shown on the Plans or directed by the engineer. The post shall penetrate the ground at least 4 ft. (1.2 m).

### 640.3.06 Quality Acceptance

General Provisions 101 through 150.

### 640.3.07 Contractor Quality and Maintenance

General Provisions 101 through 150.

## 640.4 Measurement

Retroreflectorized railroad cross buck signs are measured for payment by the number in place completed and accepted.

### 640.4.01 Limits

General Provisions 101 through 150.

## 640.5 Payment

Cross buck signs measured for payment will be paid for per each. Payment is full compensation for furnishing and erecting the Item complete in place according to the Plans and Specifications, and for providing materials and concrete, excavating, backfilling, and disposing of the surplus materials.

Payment will be made under:

Item No. 640	Retroreflectorized railroad cross buck signs, steel post	Per each
Item No. 640	Retroreflectorized railroad cross buck signs, wood post	Per each

### 640.5.01 Adjustments

General Provisions 101 through 150.

## **Section 641—Guardrail**

### 641.1 General Description

This work includes furnishing and erecting guardrail and appurtenances according to the Specifications. Conform with the lines, grades, and locations shown on the Plans or as directed.

Place W-beam, T-beam, or “T” beam with modified offset block as shown on the Plans and in the Proposal. Unless designated otherwise, references to guardrail shall mean W-beam.

Unless provided for in the Plans, this work also includes:

- Grading to provide the “T” distance shown on the standard behind the guardrail
- Grading to construct shoulder flares for approved guardrail anchorage systems and widened shoulders along guard rail runs according to Section 205 and Section 208
- Furnishing and setting additional posts (all lengths) together with the necessary offset blocks and hardware (when specified in the Plans or in the Proposal)

#### 641.1.01 Definitions

General Provisions 101 through 150.

#### 641.1.02 Related References

##### A. Standard Specifications

Section 205—Roadway Excavation

Section 208—Embankments

Section 645—Repair of Galvanized Coatings

Section 700—Grassing

Section 859—Guard Rail Components

Section 870—Paint

##### B. Referenced Documents

General Provisions 101 through 150.

NCHRP 350

#### 641.1.03 Submittals

General Provisions 101 through 150.

### 641.2 Materials

#### A. Steel Guardrail

Use steel guard rail and steel posts unless specified otherwise on the Plans or in the Proposal.